SECTION 1.—AEROLOGY.

SOLAR AND SKY RADIATION MEASURED AT WASHINGTON, D. C., DURING APRIL, 1915.

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[Dated: Washington, D. C., May 29, 1915.]

In Table 1 are summarized the measurements of the intensity of direct solar radiation made by the Weather Bureau at the American University,[1] Washington, D. C., during April, 1915. The means for the month show only slight departures from the 5-year means published in the Bulletin of the Mount Weather Observatory, 1912, 5 : 182, Table 3. The measurements obtained previous to noon of the 18th were generally above the normal, and after that time were decidedly below normal.

TABLE 1.—*Solar radiation intensities at Washington, D. C., during April, 1915.*

[Gram-calories per minute per square centimeter of normal surface.]

Date.	Sun's zenith distance.										
	0°	48.3°	60.0°	66.5°	70.7°	73.6°	75.7°	77.4°	78.7°	79.8°	80.7°
	Air mass.										
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
1915. A. M.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Gr.-cal.
Apr. 1	.....	.....	1.22	1.16	1.07	1.00	0.93	0.88	0.83	0.79	0.73
8	1.50	1.34	1.20	1.10	1.01	0.92	0.84	0.77	0.71	0.66	.....
9	.....	1.00	0.82	0.74	.....	.....	.....	.....	.....	.....	.....
13	.....	.....	1.20	1.10	1.01	0.93	0.86	0.81	0.77	0.72	0.68
14	1.45	1.37	1.27	1.17	1.07	0.97	.....	0.82	0.77	0.72	0.68
15	1.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	.....	1.16	1.08	0.96	0.86	0.80	0.74	0.68	0.62	0.57	.....
18	1.49	1.32	1.24	1.14	1.06	0.98	.....	.....	.....	.....	.....
26	1.16	0.88	0.72	0.63	0.54	.....	.....	.....	.....	.....	.....
30	.....	1.07	0.90	.....	.....	.....	.....	.....	.....	.....	.....
Means	1.40	1.16	1.07	1.00	0.95	0.93	0.84	0.79	0.74	0.69	0.70
P. M.											
Apr. 4	1.54	1.37	1.21	1.10	1.02	0.94	0.88	.....	.....	.....	.....
14	.....	.....	1.20	1.09	1.00	0.91	.....	.....	.....	.....	.....
15	.....	.....	.....	.....	.....	0.84	0.77	0.70	0.61	.....	.....
18	.....	1.16	0.88	.....	.....	.....	.....	.....	.....	.....	.....
30	1.16	1.03	.....	.....	.....	.....	0.46	0.40	0.36	.....	.....
Means	(1.35)	1.19	1.10	(1.10)	(1.01)	0.90	0.70	(0.55)	(0.48)	.....	.....

Skylight polarization, measured at solar distance 90° and in the sun's vertical, with the sun at zenith distance 60°, averaged 58 per cent, with a maximum of 67 per cent. This latter is 4 per cent higher than the average maximum for April published in the Bulletin of the Mount Weather Observatory, 3 : 114, Table 16.

In Table 2, column 2 gives the daily totals of solar and sky radiation received on a horizontal surface at the American University. The measurements were made with a Callendar recording pyrheliometer as described in the REVIEW for March, 1915, 43 : 100. Table 2, column 3, gives the departures from the daily normals published in the same number of the REVIEW, page 107, Table 4.

The above data show less than the average cloudiness, more than average sunshine, and solar radiation above the average in intensity during April, 1915, but especially so during the first two decades of the month.

TABLE 2.—*Daily totals and departures of solar and sky radiation at Washington, D. C., during April, 1915.*

[Gram-calories per square centimeter of horizontal surface.]

Date.	Daily total.	Departure from normal.	Excess or deficiency since first of month.	Percentage of possible sunshine.	Average cloudiness.
1915.	Gr.-cal.	Gr.-cal.	Gr.-cal.	Per cent.	0-10.
Apr. 1	573	197	197	100	0
2	429	51	248	66	8
3	77	—304	— 56	0	10
4	567	184	128	95	2
5	324	— 61	67	66	9
6	387	— 1	66	70	5
7	512	122	188	84	3
8	601	208	396	100	0
9	463	67	463	85	6
10	446	48	511	72	7
11	129	—272	239	15	9
12	502	98	337	73	5
13	552	145	482	100	2
14	634	224	706	100	0
15	615	202	908	100	0
16	456	38	946	69	5
17	384	— 39	907	64	6
18	640	212	1,119	100	0
19	521	88	1,207	100	4
20	420	— 18	1,189	73	7
Decade departure	.....	.....	678	.....	.....
21	561	118	1,307	100	2
22	278	—170	1,137	23	9
23	395	— 58	1,079	52	8
24	425	— 33	1,046	76	4
25	515	52	1,098	100	0
26	504	36	1,134	74	4
27	399	— 74	1,060	70	4
28	494	16	1,076	66	6
29	435	— 48	1,028	43	7
30	610	122	1,150	85	1
Decade departure	.....	.....	— 39	.....	.....
Total excess since first of year	.....	.....	909	.....	.....

[1] For a description of exposures of instruments and details of methods of observation, see this REVIEW, December, 1914, 42 : 648.